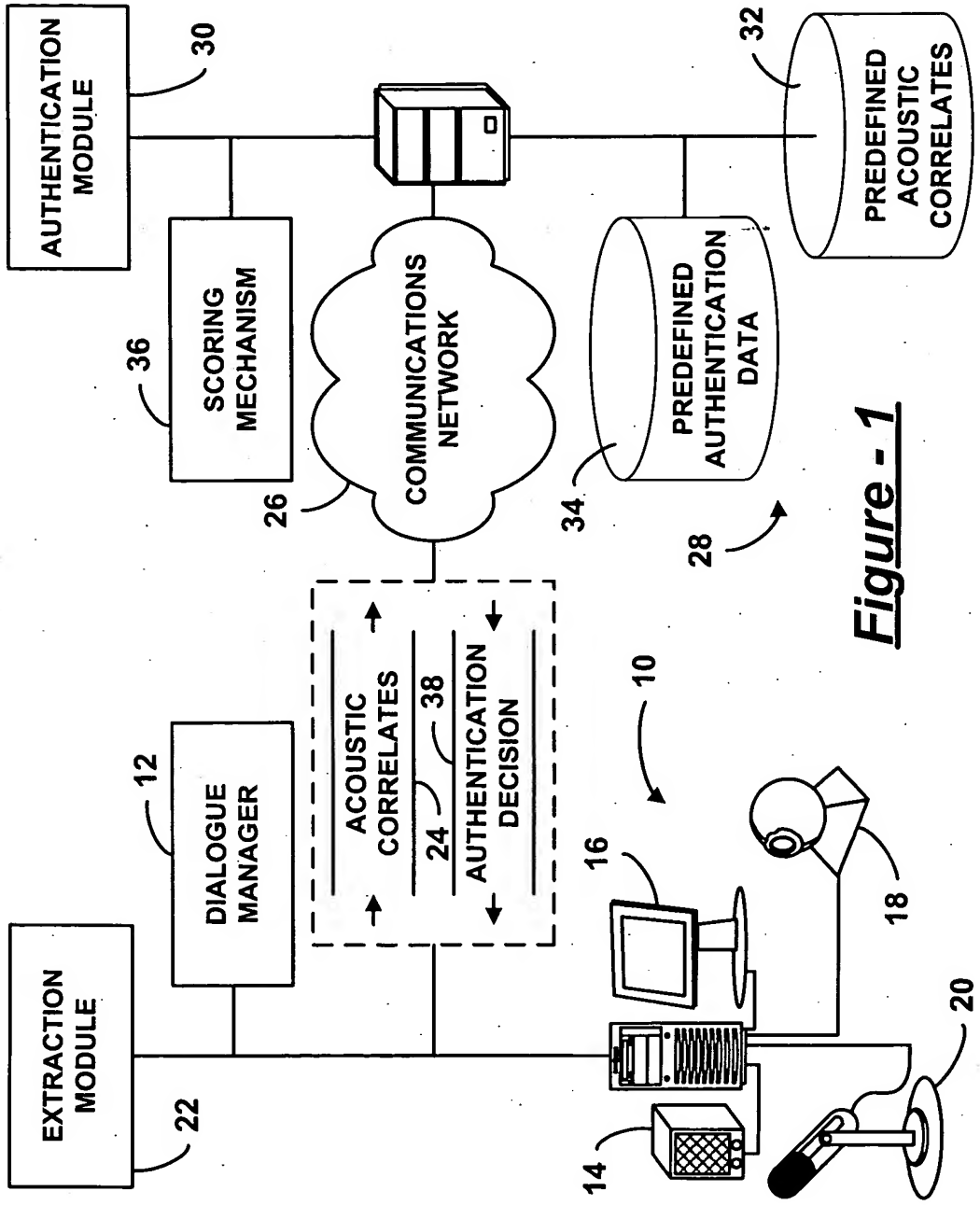
AUTHENTICATION MODULE
30
32
PREDEFINED ACOUSTIC CORRELATES
SCORING MECHANISM
36
COMMUNICATIONS NETWORK
26
PREDEFINED AUTHENTICATION DATA
34
28
ACOUSTIC CORRELATES
38
24
AUTHENTICATION DECISION
10
12
DIALOGUE MANAGER
16
18
EXTRACTION MODULE
22
20
14

Figure - 1

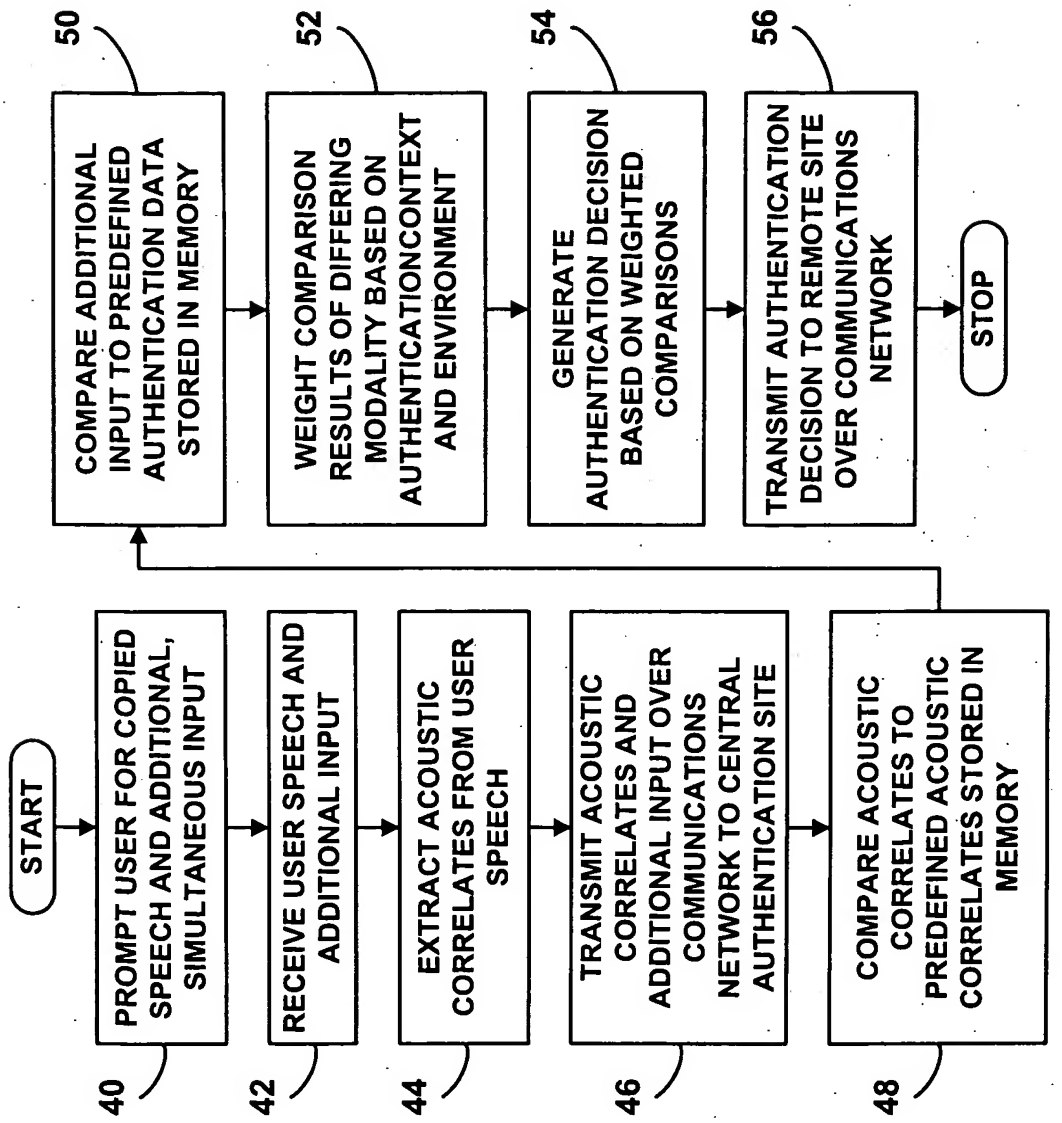
START
PROMPT USER FOR COPIED SPEECH AND ADDITIONAL, SIMULTANEOUS INPUT
RECEIVE USER SPEECH AND ADDITIONAL INPUT
EXTRACT ACOUSTIC CORRELATES FROM USER SPEECH
TRANSMIT ACOUSTIC CORRELATES AND ADDITIONAL INPUT OVER COMMUNICATIONS NETWORK TO CENTRAL AUTHENTICATION SITE
COMPARE ACOUSTIC CORRELATES TO PREDEFINED ACOUSTIC CORRELATES STORED IN MEMORY
COMPARE ADDITIONAL INPUT TO PREDEFINED AUTHENTICATION DATA STORED IN MEMORY
WEIGHT COMPARISON RESULTS OF DIFFERING MODALITY BASED ON AUTHENTICATIONCONTEXT AND ENVIRONMENT
GENERATE AUTHENTICATION DECISION BASED ON WEIGHTED COMPARISONS
TRANSMIT AUTHENTICATION DECISION TO REMOTE SITE OVER COMMUNICATIONS NETWORK
STOP
40
42
44
46
48
50
52
54
56

Figure - 2

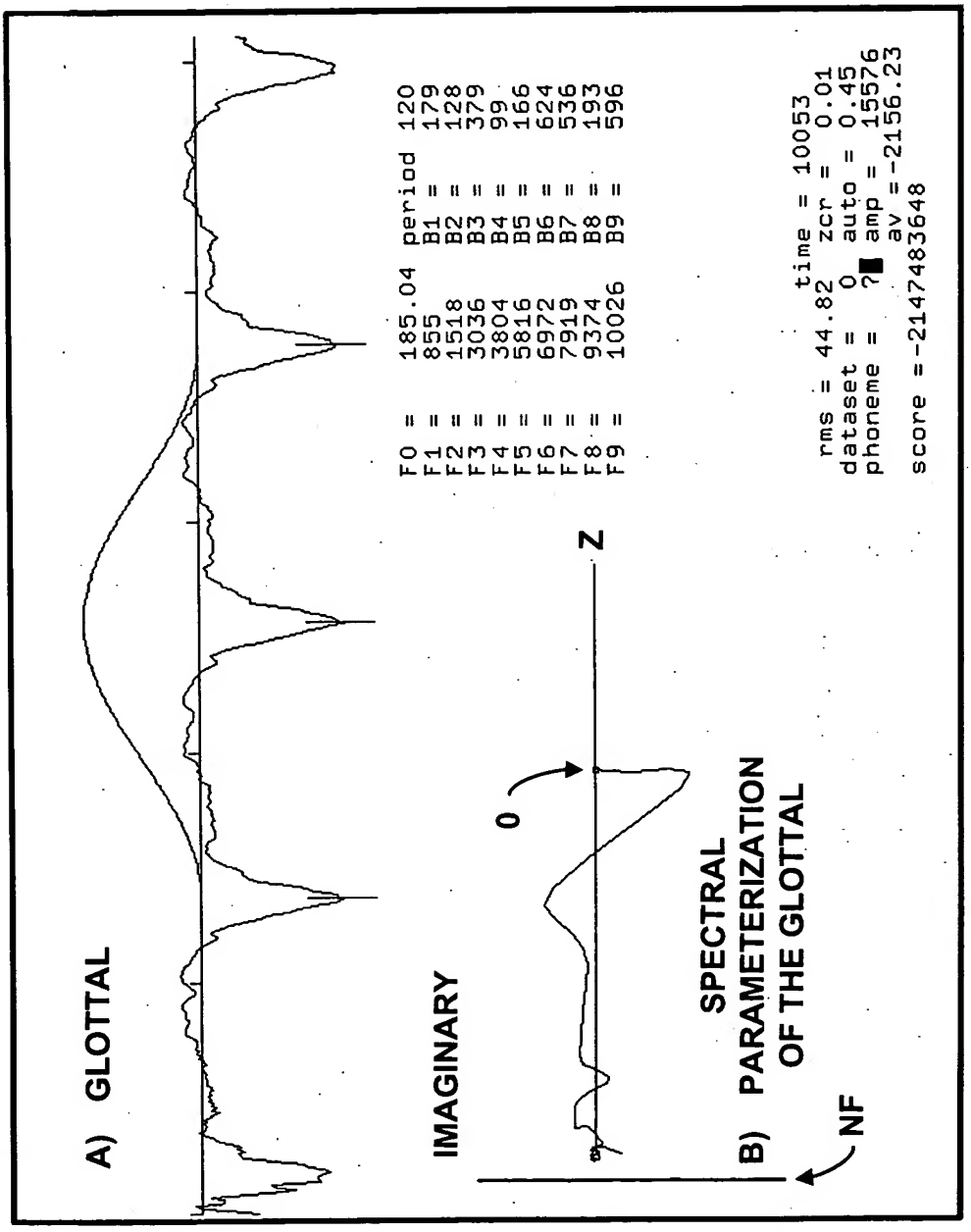
A) GLOTTAL
F0 = 185.04 period 120
F1 = 855 B1 = 179
F2 = 1518 B2 = 128
F3 = 3036 B3 = 379
F4 = 3804 B4 = 99
F5 = 5816 B5 = 166
F6 = 6972 B6 = 624
F7 = 7919 B7 = 536
F8 = 9374 B8 = 193
F9 = 10026 B9 = 596
time = 10053
rms = 44.82 zcr = 0.01
dataset = 0 auto = 0.45
phoneme = ? amp = 15576
av = -2156.23
score = -2147483648
IMAGINARY
Z
0
B) SPECTRAL PARAMETERIZATION OF THE GLOTTAL
NF

Figure - 3

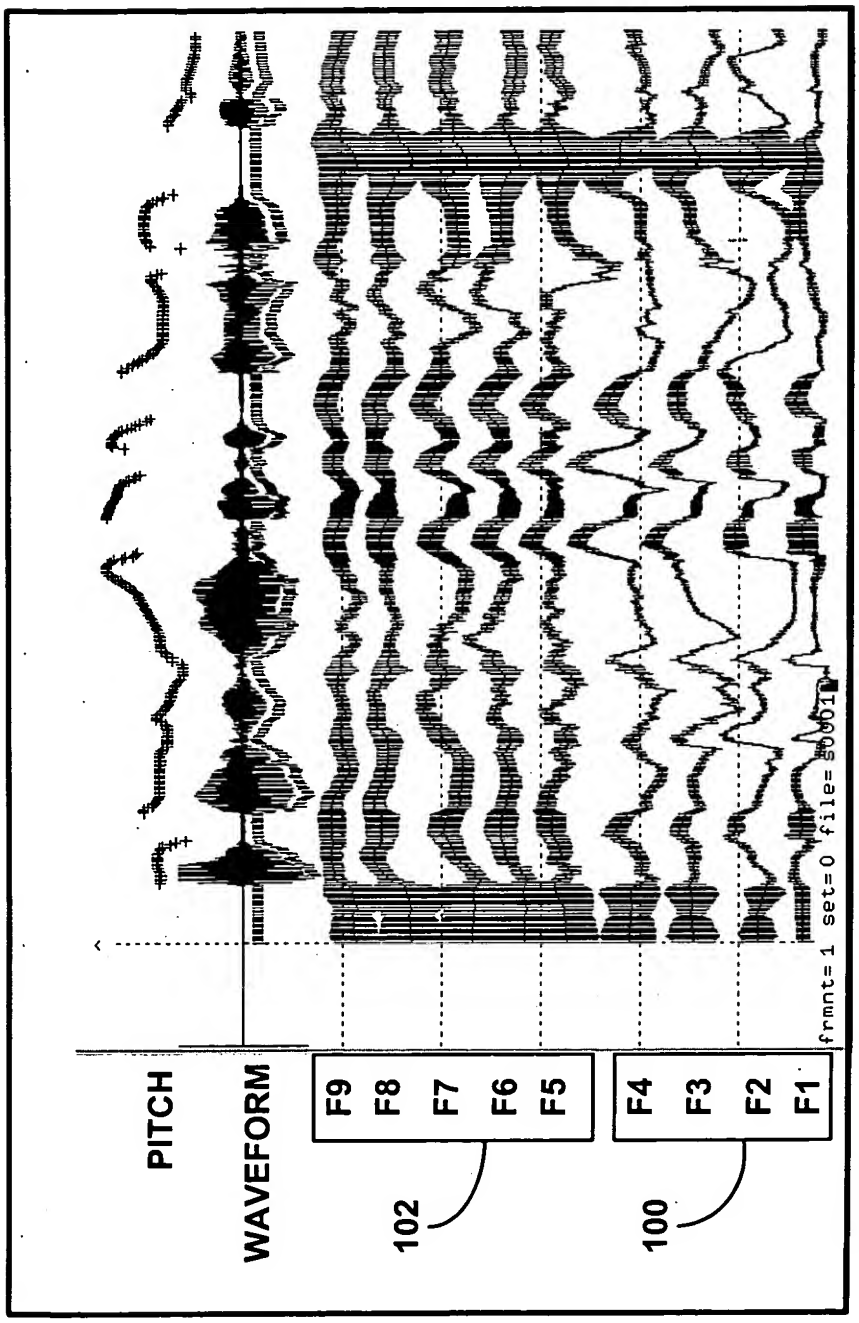
PITCH
WAVEFORM
F9
F8
F7
F6
F5
F4
F3
F2
F1
102
100
frmnt=1 set=0 file=s0001

Figure - 4